

Determination of Public Land (Rangeland) Health for 64052 KILLGO

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Killgo allotment #64052 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. KREAGER

Assistant Field Manager

07/21/2004

Date

Standards of Public Land Health

Evaluation of 64052 KILLGO Allotment

[06/15/2004]

The Roswell Field Office conducted rangeland health assessments at one site within the Killgo Allotment #64052. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64052-IDSU-A159	X			X			N/A		

Twenty-two indicators for Rangeland Health were evaluated for the public land on the Killgo allotment #64052. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) management category due to the small amount of public land present.

The drought conditions have impacted this allotment and surrounding areas over the last few years. Considering this, the public land assessed was in fair condition. Cultivated fields surround this area and there is evidence of an old farming operation with possible ranching activity as well. The acreage is 200/91 hectares on this gently undulating ecological site just off Capitan Road north of Roswell, NM. The soil phase is a Hollomex-Reeves-Milner with some gyp inclusions usually found on high terraces in the south-central part of the survey area. Slopes are 0-3% with elevations of 3,600 ft/1090 m.

Indicators assessed which rated in the Moderate category are water flow patterns, bareground, litter amount, annual production and invasive plants. The two indicators with soil and hydrologic attributes of concern, water flow patterns and bareground are indicative of dry conditions and reduced vegetative ground cover. Water flow patterns indicated some erosion taking place and evidence of flow with instability and deposition. At the northeast 1/4 where sandier soil does exist, is the scattering of mesquite (*Prosopis glandulosa*) which in time may take over the entire area. Bareground now is estimated at 60% which approaches the upper end of the range expected at 40-50%. Very small amounts of litter are present with some displacement but not enough to warrant further departure from the ecological site description (ESD).

The indicator with biotic attributes, functional/structural groups also rates at Moderate. There is slight reduction with some subdominant groups replaced by F/S groups which were not as dominant as before observed. Black grama (*Bouteloua eriopoda*) is missing along with gyp grama (*Bouteloua brevesita*). There is however blue grama (*Bouteloua gracilis*), burrograss (*Scleropogon brevifolius*) and tobosa (*Pleuraphis mutica*) in minor amounts. Annual and perennial forbs are in abundance with numerous young seedlings taking hold. This no doubt is in response to the late spring rainfall in April of this year. As stated before the litter amount is indicating only minor amounts of approximately 10-20% in some places and is slightly falling in the bottom end of the range. Annual production also rates Moderate with approximately 1/3 of the potential currently onsite. Invasive plants rate Moderate as mesquite is found scattered in some places and a bit more numerous in others. A past disturbed area like this may show ongoing encroachment. Physical and biological crusting is continuous with minor breaks in it's continuity. Despite the disturbances like trailing, roads, pipelines and powerlines, the public land remains in fair condition. The discovery of a prairie dog (*Cynomys ludovicianus*) town adjacent to the dirt tank warranted gps'ing of its' perimeter and is discussed in the wildlife portion of this evaluation.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups, annual production and invasive plants, as discussed above. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation.

The area of interest is adjacent to developed irrigated land and is an isolated 160-acre parcel. Three biotic indicators fell within the Moderate rating; litter amount, annual production and invasive plants. Considering present climate regimes, the first two indicators can be expected to fall within the normal range of variability. Desert shrub components has increased with past declining range site conditions and overall drying conditions over time. The loamy rangesite tends to support more shrubby vegetation components, especially in the sandier portions, possibly from past land use activities associated with cropland and livestock production. An upward trend in rangesite ecological condition was noted by the abundance of new perennial grass growth tempered by the invasion of mesquite.

Wildlife Habitat and Population indicators rate Slight to Moderate, primarily for upland game birds and a variety of non-game terrestrial species. The composition of vegetation reflects current climatic conditions, e.g., drought for the past several years and past use. Range site production and cover of a variety of preferred plant species for wildlife, such as forbs and woody browse species, and the availability of seed for food and regeneration, is moderated by climate and, in this area, past land use practices on the parcel and adjacent private land and mesquite invasion. It should be noted that as habitat conditions change, i.e., shift to desert shrub grasslands, an shift in wildlife species and populations will occur, with those species preferring a more shrubby component

increasing and those requiring a more open grassland aspect declining. With respect to Special Status Species, a new colony of prairie dogs were found and mapped during the field visit. Habitat and Population indicators are, therefore, rated None to Slight from the lack of baseline information. ATV tracks were noted through the area and directly to burrows, possibly from prairie dog control efforts (poisoning) as several large burrows were inactive.

Hydrology - The water flow patterns indicator rated as moderate. Erosion is occurring with some instability and deposition. The bareground indicator rated as moderate. The amount of bareground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bareground. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary terrace gravel deposits outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within the Killgo allotment meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not evaluated. See site notes and recommendations for further information regarding this assessment.

Recommendations:

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 64052-IDSU-A159						
Legal Land Desc	NWNE 2 0090S 0240E Meridian 23		Acreage	160		
Ecosite	042CY007NM LOAMY SD-3		Photo Taken	Y		
Watershed	13060005070 SALT					
Observers	NAVARRO/BAGGAO		Observation Date	06/15/2004		
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	HMA		Soil Taxon Name	HOLLOMEX		
Texture Class	NM644 L		Soil Phase	HOLLOMEX-REEVES-MILNER		
Texture Modifier	NM644 LOAM,DRY					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	6.47		NOAA Growing Season Precipitation	4.39		
NOAA Avg Annual Precipitation	12.22		NOAA Avg Growing Season Precipitation	10.15		
Disturbances and Animal Use:	Prairie dogs, trailing, powerlines, pipelines and roads. No livestock observed at the time of assessment. There are some gyp inclusions especially around the area of the prairie dog town. Mesquite is encroaching at the far north end. Access roads are also crossing BLM land. A dirt tank with an old windmill location which has been abandoned has impacted part of this site and public land associated with it.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments						

:						
S H	Water Flow Patterns			X		
Comments :	Evidence of flow-SE1/4 where sandy area exists.					
S H	Pedestals and/or Terracettes				X	
Comments :	Inflow patterns					
S H	Bare Ground			X		
Comments :	Now estimated at 60%.					
S H	Gullies				X	
Comments :	Uncommon					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments :						
H	Litter Movement				X	
Comments :	Displacement-very small amount of litter-some piling.					
S H B	Soil Surface Resistance to Erosion				X	
Comments :	Too variable.					
S H B	Soil Surface Loss or Degradation				X	
Comments :	Some areas running off.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments :	Only minor effect.					
S H B	Compaction Layer				X	
Comments :						
B	Functional/Structural Groups				X	
Comments	Some reduction-annual and perennial forbs. Gramas present in small					

:	amounts.					
B	Plant Mortality/Decadence					X
Comments :	Some decadence, but plenty of new growth as well.					
H B	Litter Amount			X		
Comments :	1/2 of the ESD is the estimate.					
B	Annual Production			X		
Comments :	1/2 of ESD average.					
B	Invasive Plants			X		
Comments :	Mesquite scattered.					
B	Reproductive Capability of Perennial Plants				X	
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :	Physical and biological crusts observed with some breaks in continuity.					
B	Wildlife Habitat				X	
Comments :	This 160-acre parcel was transferred from Bitter Lake National Wildlife Refuge inholding to the BLM. It is adjacent irrigated land and has an old earthen tank and well along the eastern boundary of the parcel. Habitat conditions are as good as can be expected considering past developments and adjacent land use.					
B	Wildlife Populations				X	
Comments :	No specific wildlife information at this time. Species of interest are nongame terrestrial species and a few upland game bird species such as mourning dove and scaled quail.					
B	Special Status Species Habitat					X
Comments :	Active prairie dog town discovered and perimeter gps'd.					
B	Special Status Species Populations					X
Comments :	Prairie dog town is active. ATV tracks were observed in the area and to certain prairie dog mounds, possible poisoning activities may be taking place. Several large burrows were no longer active.					

Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	2	7	1
H	Hydrologic	0	0	3	7	1
B	Biotic	0	0	3	7	3
B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i> , and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.						
Attribute	Rationale	Does Not Meet	May Need More Info	Meets		
Soil		0	2	8		
Hydrologic		0	3	8		
Biotic		0	3	10		
Site Notes: There are roads and pipelines running through this parcel of public land along with hi-line power lines. Gyp inclusions are included in this ecological site and the access road crosses BLM. The site was gps'd and relocated to facilitate easier access.						



T8 S.R24E



Private

Allotment Boundary

His laboratory is one of the few centers of Latin American research in the country, and he has developed a research focus on the role of the state in economic development, and on the role of the state in the development of the ELN. He is also a member of the National Academy of Sciences.

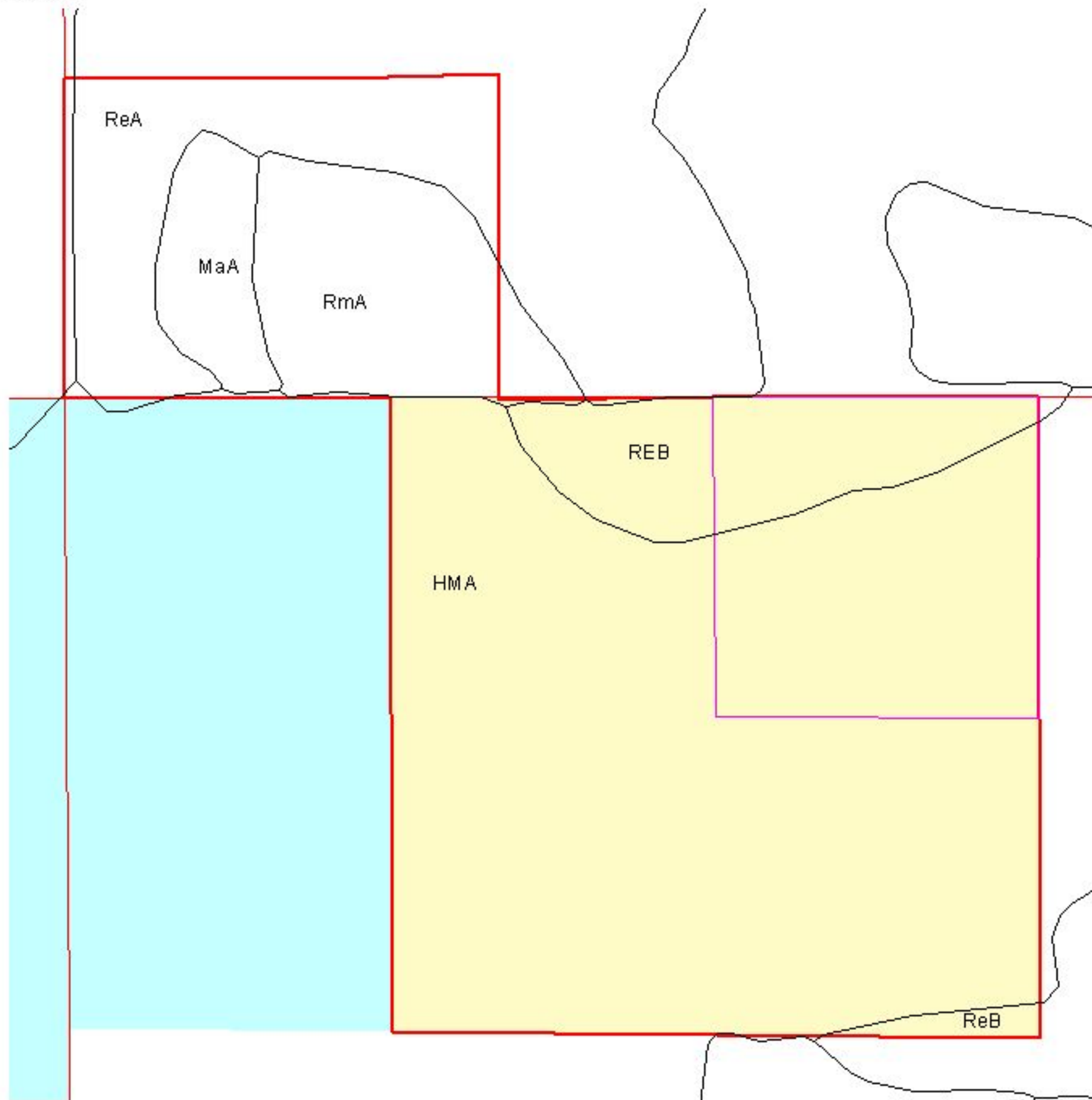


Rangeland Health Assessment Soil Mapping Units

Allotment 64052



T8S.R24E



0.1 0 0.1 Miles



Public



State



Study Plots



Private



Soil Mapping Units



Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 8, 2003.

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